



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 09/632,303  | 08/04/2000  | Lawrence W. Yonge III | 04838-053001        | 1673             |
| 26161   | 7590        | 10/14/2005            | EXAMINER            |                  |
| FISH & RICHARDSON PC<br>P.O. BOX 1022<br>MINNEAPOLIS, MN 55440-1022 |             |                       | RYMAN, DANIEL J     |                  |
|   |             |                       | ART UNIT            | PAPER NUMBER     |
|   |             |                       | 2665                |                  |

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/632,303

Applicant(s)

YONGE ET AL.

Examiner

Daniel J. Ryman

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 18-20 and 23 is/are rejected.
- 7) ☒ Claim(s) 9-17, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/25/05
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Examiner acknowledges Applicant's filing of an RCE on 9/1/2005.
2. Applicant's arguments with respect to claims 1-8, 18-20, and 23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 18, 19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (USPN 4,663,757) in view of Ulug (USPN 4,682,324).
5. Regarding claims 1 and 23, Huang discloses in a network of stations interconnected by a transmission medium, a method of and unit for access contention by a first station having a frame to be transmitted, the method comprising the steps of and the unit comprising means for: having the first station detect contention control information (empty slot) (col. 6, lines 28-49, esp. lines 36-42); and determining from the contention control information if the first station is permitted to contend for access during a contention period (either data session or image session) (col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49) where a station transmitting a low priority frame can only contend to transmit after an empty slot.

Huang does not expressly disclose detecting the contention control information from information transmitted by another station in a prior frame, wherein the information transmitted

Art Unit: 2665

by the other station in a prior frame comprises a field of the prior frame, and wherein the prior frame containing the field was successfully transmitted to the first station. Ulug discloses, in a contention control system, having a first station detect contention control information (transmit control bit) from information transmitted by another station in a prior frame (message signal), wherein the information transmitted by the other station in a prior frame comprises a field of the prior frame, and wherein the prior frame containing the field was successfully transmitted to the first station (col. 2, lines 20-37 and col. 2, lines 48-59). Ulug also discloses the use of priority levels to differentiate the users (i.e. predominant station) (col. 2, lines 20-37 and col. 2, lines 48-59). Ulug's system permits a system to work "as efficiently during periods when many stations have message signals to transmit as it does when few stations have message signals to transmit" (col. 2, lines 13-19). It would have been obvious to one of ordinary skill in the art at the time of the invention that the use of Ulug's transmit control signal would eliminate the requirement for an "empty slot," and thus provide better bandwidth efficiency in the system since the use of the empty slot wastes bandwidth. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to detect the contention control information from information transmitted by another station in a prior frame, wherein the information transmitted by the other station in a prior frame comprises a field of the prior frame, and wherein the prior frame containing the field was successfully transmitted to the first station in order to work as efficiently during periods when many stations have message signals to transmit as it does when few stations have message signals to transmit.

6. Regarding claim 2, Huang in view of Ulug suggests determining if the contention control information indicates a contention-free access (Ulug: col. 2, lines 20-37 and col. 2, lines 48-59)

Art Unit: 2665

where the transmit control bit is used to indicate to a user station whether or not another user station has a packet to transmit, such that the user station can avoid transmitting and causing a collision; and if the contention control information indicates a contention-free access, determining if a channel access priority level (short or long packet) associated with the frame to be transmitted is higher than a channel access priority level associated with a last transmitted frame (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49) where in Huang, a short packet will have preemptive priority over all long packets.

7. Regarding claim 3, Huang in view of Ulug discloses, if the contention control information indicates a contention-free status and the channel access priority level associated with the frame to be transmitted is determined to be higher than the channel access priority level of the last transmitted frame, or the contention control information does not indicate a contention-free status, detecting whether any station in the network of stations intends to contend for access to the medium at a channel access priority level that is higher than the channel access priority level associated with the frame to be transmitted (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49) where, if long packets are contending for access, it is determined whether any short packets are awaiting transmission such that the short packets will preempt the long packets.

8. Regarding claim 4, Huang in view of Ulug discloses deferring contention for access to the transmission medium to any such station intending to contend for access at the higher channel access priority level (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49) where long packets are deferred if a short packet is awaiting transmission.

Art Unit: 2665

9. Regarding claim 5, Huang in view of Ulug discloses contending for access to the medium during the next contention period if no higher channel access priority level is detected (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49) where long packets will contend for access if there are no awaiting short packets.

10. Regarding claim 6, Huang in view of Ulug discloses signaling an intention to contend at the associated channel access priority level to other stations prior to the contention period (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49 and Ulug: col. 2, lines 20-37 and col. 2, lines 48-59) where such signaling will eliminate the need for an “empty slot.”

11. Regarding claim 7, Huang in view of Ulug discloses establishing a delay period corresponding to a random backoff time (Huang: col. 2, line 57-col. 3, line 19) where some of the colliding stations will transmit during the first subset and some will transmit during the second subset such that the actual delay from the collision for a particular unit is random; and monitoring the transmission medium for activity for the duration of the delay period (Huang: col. 2, line 57-col. 3, line 19 and Ulug: col. 2, lines 22-25) where Huang and Ulug disclose determining whether or not a communication channel is in use.

12. Regarding claim 8, Huang in view of Ulug discloses transmitting the frame if activity is not detected during the monitoring (Huang: col. 2, line 57-col. 3, line 19 and Ulug: col. 2, lines 22-25).

13. Regarding claim 18, Huang in view of Ulug discloses that the contention control information and the channel access priority level are observable by substantially all of the stations (Huang: col. 5, line 66-col. 6, line 21 and col. 6, lines 28-49 and Ulug: col. 2, lines 20-37 and col. 2, lines 48-59).

Art Unit: 2665

14. Regarding claim 19, Huang in view of Ulug discloses that the contention control information is a flag that, when set, indicates contention-free status (Ulug: col. 2, lines 20-37 and col. 2, lines 48-59).

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (USPN 4,663,757) in view of Ulug (USPN 4,682,324) as applied to claim 1, and further in view of Karner (PG Pub 2001/0048692), previously presented.

16. Regarding claim 20, Huang in view of Ulug fails to expressly disclose that the transmission medium is a power line. Karner discloses a power line network that uses a priority method for medium access control (paragraph 15) where it is implicit that this allows power lines to be used as a communication network. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the contention resolution system of Huang in view of Ulug on a power line in order to permit power lines to be used as a communication network.

***Allowable Subject Matter***

17. Claims 9-17, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest detecting, in a priority resolution period immediately prior to the contention period, signaling indicating a channel access priority level of a frame to be transmitted by the at least one other the station.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJR  
Daniel J. Ryman  
Examiner  
Art Unit 2665



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600